

**AMENDMENTS TO THE CLAIMS**

1-38. (Canceled)

39. (Currently Amended) A transducer comprising:

a pair of spaced magnets, the pair of spaced magnets forming a first passage;

a coil, the coiling being formed to include a second passage;

the first passage and the second passage respectively forming a first portion and a second portion of a tunnel, the tunnel having a central axis, a first side wall and a second side wall, the first side wall and the second side wall defining a nominal tunnel width, and a first upper wall and a second upper wall, the first upper wall and the second upper wall defining a nominal ~~tunnel~~ rib gap;

a reed having a central portion that extends through the tunnel, a stationary end and a deflection end, wherein the ~~read~~ reed has a tip portion that lies at least partially within the first passage, the ~~read~~ reed being mounted such that a portion of the reed is free to be deflected towards or away from respective ones of the pair of spaced magnets;

the coil having a first end disposed toward the stationary end and a second end disposed adjacent the magnets;

the pair of magnets having a first end disposed adjacent the second end of the coil and a second end disposed toward the deflection end of the reed;

the tunnel having a tapered portion, the tapered portion either increasing or decreasing the nominal rib gap at the tapered portion, wherein the tapered portion comprises one of the first portion or the second portion.

40. (Currently Amended) The transducer of claim 39, wherein the tapered portion provides a the nominal rib gap that gradually decreases.

41. (Previously Presented) The transducer of claim 39, wherein the tapered portion comprises each of the first portion and the second portion.

42. (Currently Amended) The transducer of claim 39, wherein the tapered portion provides a the nominal rib gap that gradually increases.

43. (Previously Presented) The transducer of claim 39, wherein the tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the tapered portion.

44. (Previously Presented) The transducer of claim 39, wherein the tapered portion comprises a first shim and a second shim disposed respectively between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

45. (Previously Presented) The transducer of claim 39, wherein the tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

46. (Previously Presented) The transducer of claim 39, wherein the transducer comprises a yoke, the pair of magnets being secured to the yoke, and the tapered portion comprises a tapered portion of the yoke.

47. (Previously Presented) The transducer of claim 39, wherein the tapered portion is configured to limit displacement of the reed within the tunnel.

48. (Currently Amended) The transducer of claim 39, the tunnel comprising a second tapered portion, the second tapered portion either increasing or decreasing the nominal tunnel width at the second tapered portion, wherein the second tapered portion comprises one of the first portion or the second portion.

49. (Currently Amended) The transducer of claim 48, wherein the second tapered portion provides a the nominal tunnel width that gradually decreases.

50. (Currently Amended) The transducer of claim 48, wherein the second tapered portion comprises a portion of each of the first portion and the second portion.

51. (Currently Amended) The transducer of claim 48, the second tapered portion provides a the nominal tunnel width that gradually increases.

52. (Previously Presented) The transducer of claim 48, wherein the second tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the second tapered portion.

53. (Previously Presented) The transducer of claim 48, wherein the second tapered portion comprises a first shim and a second shim disposed respectively between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

54. (Previously Presented) The transducer of claim 48, wherein the second tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

55. (Previously Presented) The transducer of claim 48, wherein the transducer comprises a yoke, the pair of magnets being secured to the yoke, and the second tapered portion comprises a tapered portion of the yoke.

~~55~~ 56. (Currently Amended) The transducer of claim 48, the coil comprising bobbin and wherein the second tapered portion comprises a core portion of the bobbin.

~~56~~ 57. (Currently Amended) A transducer comprising:

a pair of spaced magnets, the pair of spaced magnets forming a first passage;

a coil, the coiling being formed to include a second passage;

the first passage and the second passage respectively forming a first portion and a second portion of a tunnel, the tunnel having a central axis, a first side wall and a second side wall, the first side wall and the second side wall defining a nominal tunnel width,

and a first upper wall and a second upper wall, the first upper wall and the second upper wall defining a nominal ~~tunnel~~ rib gap;

a reed having a central portion that extends through the tunnel, a stationary end and a deflection end, wherein the ~~read~~ reed has a tip portion that lies at least partially within the first passage, the ~~read~~ reed being mounted such that a portion of the reed is free to be deflected towards or away from respective ones of the pair of spaced magnets;

the coil having a first end disposed toward the stationary end and a second end disposed adjacent the magnets;

the pair of magnets having a first end disposed adjacent the second end of the coil and a second end disposed toward the deflection end of the reed;

the tunnel having a tapered portion, the tapered portion either increasing or decreasing the nominal tunnel width at the tapered portion, wherein the tapered portion comprises one of the first portion or the second portion.

~~57~~ 58. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the tapered portion provides a the nominal tunnel width gradually decreases.

~~58~~ 59. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the tapered portion comprises each of the first portion and the second portion.

~~59~~ 60. (Currently Amended) The transducer of claim ~~56~~ 57, the tapered portion provides a the nominal tunnel width that gradually increases.

~~60~~ 61. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the tapered portion.

~~61~~ 62. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the tapered portion comprises a first shim and a second shim disposed respectively between a

first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

~~62~~ 63. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

~~63~~ 64. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the transducer comprises a yoke, the pair of magnets being secured to the yoke, the tapered portion comprises a tapered portion of the yoke.

~~64~~ 65. (Currently Amended) The transducer of claim ~~56~~ 57, wherein the tapered portion is configured to limit displacement of the reed within the tunnel.

~~65~~ 66. (Currently Amended) The transducer of claim ~~56~~ 57, the tunnel comprising a second tapered portion, the second tapered portion either increasing or decreasing the nominal rib gap at the second tapered portion, wherein the second tapered portion comprises one of the first portion or the second portion.

~~66~~ 67. (Currently Amended) The transducer of claim ~~65~~ 66, wherein the second tapered portion provides a the nominal rib gap that gradually decreases.

~~67~~ 68. (Currently Amended) The transducer of claim ~~65~~ 66, wherein the second tapered portion comprises a portion of each of the first portion and the second portion.

~~68~~ 69. (Currently Amended) The transducer of claim ~~65~~ 66, wherein the second tapered portion provides a the nominal rib gap that gradually increases.

~~69~~ 70. (Currently Amended) The transducer of claim ~~65~~ 66, wherein the second tapered portion has a slope, the slope being substantially equal to a slope of the reed when it is deflected to a position at which it contacts the second tapered portion.

~~70~~ 71. (Currently Amended) The transducer of claim ~~65~~ 66, wherein the second tapered portion comprises a first shim and a second shim disposed respectively

between a first magnet of the pair of magnets and a second magnet of the pair of magnets and a yoke structure.

~~71~~ 72. (Currently Amended) The transducer of claim ~~65~~ 66, wherein the second tapered portion comprises a first reduced thickness portion of a first magnet of the pair of magnets and a second reduced thickness portion of a second magnet of the pair of magnets.

~~72~~ 73. (Currently Amended) The transducer of claim ~~65~~ 66, the coil comprising bobbin and wherein the second tapered portion comprises a core portion of the bobbin.